

REMARKS

Claims 1-19 and 33-45 are pending in this application and have been rejected. The claims have been amended as shown above. Support for the amendments can be found in paragraph [0074] and Figure 28 of the original specification.

35 U.S.C. §102 Rejection

Claims 1-5, 7, 10, 19, 33-34, 36-38, and 40 have been rejected under 35 U.S.C. §102(b) as being clearly anticipated by Higashi et al. (U.S. Patent No. 5,918,113) for the reasons set forth on pages 2-3 of the Office Action. Applicant respectfully traverses this rejection.

The rejected claims contain several limitations relevant to this rejection. The first limitation is the presence of a leadframe substrate. The second limitation is that the conductive particles comprise a metal with an insulating layer.

The Office, however, has not substantiated that Higashi et al. anticipates either of these claim limitations. As to the first limitation, the Office argues that the device illustrated in Figures 10a through 11 describe such a limitation. The devices in these Figures contain a substrate 10, which Higashi et al. describe as being a circuit board 10, including a flexible substrate such as FPC, TAB, or PCB. *See column 3, lines 30-37.* But the Office's argument has not shown how such a disclosure anticipates a leadframe substrate.

As to the second limitation, the Office alleges that the conductive particles of Higashi et al. comprise a metal with an insulating layer, citing to column 3, lines 49+. A careful reading of this section, however, would lead the skilled artisan to the opposite conclusion. Higashi et al. describe an adhesive film 20 containing conductive particles 22 that are dispersed within adhesive component 21. The conductive particle may be a "nickel ball without or without gold

plating thereon, or a resin ball with gold plating thereon.” *See column 3, lines 50-60.* But the Office has not shown how this discloses, as recited in the second limitation, a metal with an insulating layer thereon.

The Office, therefore, has not substantiated that Higashi et al. anticipates every limitation in the rejected claims. Consequently, Applicant respectfully requests withdrawal of this ground of rejection.

35 U.S.C. §103 Rejection

Claims 8-9, 11, 12, 14-16, and 18 have been rejected under 35 U.S.C. §103 as being unpatentable over Higashi et al. for the reasons set forth on pages 3-7 of the Office Action. Applicant respectfully traverses this rejection.

As noted above, the rejected claims contain several limitations that the Office has not shown to be described by Higashi et al. The Office does acknowledge that Higashi et al. fail to describe a stud bump that comprises Cu. The Office, however, argues that it would have been obvious to substitute Cu for the Au stud bump taught by Higashi et al. since they are recognized in the art as equivalents and Cu is cheaper to use than Au. Even if such an allegation is true, and Applicant traverses such an allegation for the record, it fails to substantiate how these two limitations would have been suggested to the skilled artisan in light of Higashi et al.

Thus, the Office has not substantiated that the rejected claims would have been obvious to the skilled artisan in light of Hagashi et al. Accordingly, Applicant respectfully requests withdrawal of this ground of rejection.

35 U.S.C. §103 Rejection

Claims 6, 13, 17, 35, and 39 have been rejected under 35 U.S.C. §103 as being unpatentable over Higashi et al. in view of the admitted prior art (APA) for the reasons set forth on pages 7-8 of the Office Action. Applicant respectfully traverses this rejection.

The Office has rejected these claims in light of the admitted prior art (APA) in Figure 1-3 of the present specification. The Office recognizes that Hagashi et al. fail to teach an RDL pattern and an insulating layer covering a portion of the RDL pattern. The Office contends that it would have been obvious to modify Hagashi et al. in light of the APA to arrive at the claimed invention. Applicant respectfully disagrees.

Even if the Office's proposed modification is true, and Applicant traverses such a proposed modification for the record, it fails to establish a *prima facie* case of obviousness. The rejected claims recite the presence of a leadframe substrate and/or that the conductive particles comprise a metal with an insulating layer. But the Office has not substantiated that these two limitations would have been suggested to the skilled artisan in light of the combined disclosures of Higashi et al. and the APA.

Thus, the Office has not substantiated that the rejected claims would have been obvious to the skilled artisan in light of the proposed combination of references. Accordingly, Applicant respectfully requests withdrawal of this ground of rejection.

35 U.S.C. §103 Rejection

Claims 21, 42, 44, and 45 have been rejected under 35 U.S.C. §103 as being unpatentable over Higashi et al. in view of three prior art references for the reasons set forth on pages 8-9 of the Office Action. Applicant respectfully traverses this rejection.

The Office contends that Hagashi et al. fail to teach that the conductive particles contact both the stud bump and the bond pad. The Office alleges that all 3 of these references teach that conductive particles contact both the stud bump and the bond pad. The Office contends that it would have been obvious to modify Hagashi et al. in light of these three references to arrive at the claimed invention because it is much easier to apply an adhesive with conductive particles throughout than an adhesive with the conductive particles on one side.

To begin with, the proposed reasons for modifying the reference would not have motivated the skilled artisan to modify Hagashi et al. Figure 2 and its accompanying description in column 3, line 65 through column 4, line 3 of Hagashi et al. disclose how the adhesive film is applied. And the skilled artisan would have understood that whether the conductive particles were distributed throughout the adhesive film or only on one side would have not substantially changed how the film would be applied to the circuit board and then released. Therefore, the skilled artisan would have understood that one film would have been just as easy as the other film to apply.

Even if the Office's proposed modification would have been obvious, it fails to establish a *prima facie* case of obviousness. The rejected claims recite the presence of a leadframe substrate and/or that the conductive particles comprise a metal with an insulating layer. But the Office has not substantiated that these two limitations would have been suggested to the skilled artisan in light of the combined disclosures of Higashi et al. and any (or all) of these 3 references.

Thus, the Office has not substantiated that the rejected claims would have been obvious to the skilled artisan in light of the proposed combination of references. Accordingly, Applicant respectfully requests withdrawal of this ground of rejection.

35 U.S.C. §103 Rejection

Claim 43 has been rejected under 35 U.S.C. §103 as being unpatentable over Higashi et al., in view of these same 3 references, and further in view of the APA for the reasons set forth on page 10 of the Office Action. Applicant respectfully traverses this rejection.

The Office recognizes that Hagashi et al. fail to teach first, an RDL pattern and an insulating layer covering a portion of the RDL pattern and second, that the conductive particles contact both the stud bump and the bond pad. The Office contends that it would have been obvious to modify Hagashi et al. in light of the APA and these 3 references to arrive at the claimed invention. Applicant respectfully disagrees.

Even if the Office's proposed modification would have been obvious, and Applicant traverses such a proposed modification for the reasons noted above, it fails to establish a *prima facie* case of obviousness. The rejected claims recite the presence of a leadframe substrate and/or that the conductive particles comprise a metal with an insulating layer. But the Office has not substantiated that these two limitations would have been suggested to the skilled artisan in light of the combined disclosures of Higashi et al., these 3 references, and the APA.

Thus, the Office has not substantiated that the rejected claims would have been obvious to the skilled artisan in light of the proposed combination of references. Accordingly, Applicant respectfully requests withdrawal of this ground of rejection.

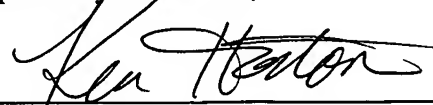
CONCLUSION

For the above reasons, Applicant respectfully requests the Office to withdraw the pending grounds of rejection and allow all the pending claims.

If there is any fee due in connection with the filing of this Amendment, including a fee for any extension of time not accounted for above, please charge the fee to our Deposit Account No. 50-0843.

Respectfully Submitted,

By



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Date: March 31, 2006